

C) a data area physically located between the lead-in area and the lead-out area on the information medium, wherein at least part of the data area is configured to record packets defined in accordance with:

a) a data object formed of one or more data object units each of which serves as a prescribed data unit;

b) control information of said data object, said control information including access unit data used for accessing an access unit which is a part of contents of said data object; and

c) a bitstream formed of a series of said packets, said bitstream including contents of said data object and contents of said control information, wherein said packets include:

c1) one or more stream packets containing one or more application packets; and

c2) partial application packets obtained by splitting said application packets across boundaries of said stream packets.

4. (Amended) The medium of claim 3, wherein said packet includes an application header extension used to store information that can differ from one application packet to another application packet.

5. (Amended) The medium of claim 3, wherein each of said application packets has an application timestamp at a leading portion thereof.

6. (Canceled)

7. (Amended) A method of recording bitstream information on an information recording medium, said bitstream information including:

a data object formed of one or more data object units each of which serves as a prescribed data unit;

control information of said data object, said control information including access unit data used for accessing an access unit which is a part of contents of said data object; and

a bitstream formed of a series of packets, said bitstream including contents of said data object and contents of said control information;

wherein:

said packets include one or more sequential or continuous stream packets containing one or more application packets; and partial application packets obtained by splitting said application packets across boundaries of said sequential or continuous stream packets,

each of said application packets has an application timestamp at a leading portion thereof, and

when said bitstream information is recorded on said information recording medium, a first byte of said application timestamp of a first one of said application packets is aligned to a start of an application packet area in a first one of said stream packets, said first one of said stream packets being located at beginning of said data object,

the method comprising:

- a) obtaining the bitstream information;
- b) preparing the packets that include the contents of the bitstream information's data object and the contents of the control information; and
- c) recording the packets prepared in the preparing step onto the information recording medium.

8. (Canceled)

9. (Amended) The method of claim 7, wherein:

C3 said packets include one or more stream packets containing one or more application packets; and D

said application packets are split across boundaries of said stream packets to constitute partial application packets.

10. (Canceled)

11. (Amended) A method of reproducing bitstream information that includes:

a) a data object formed of one or more data object units each of which serves as a prescribed data unit;

b) control information of said data object, said control information including access unit data used for accessing an access unit which is a part of contents of said data object; and

C4 c) a bitstream formed of a series of packets, said bitstream including contents of said data object and contents of said control information, wherein contents of said bitstream are reproduced from said bitstream information, based on said access unit data; D

wherein:

said packets include one or more sequential or continuous stream packets containing one or more application packets; and partial application packets obtained by splitting said application packets across boundaries of said sequential or continuous stream packets,

each of said application packets has an application timestamp at a leading portion thereof, and

when a first byte of said application timestamp of a first one of said application packets is aligned to a start of an application packet area in a first one of said stream packets located at

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beginning of said data object, the split one of said partial application packets is reproduced based on contents of access information provided in said stream packets.

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12. (Canceled)

13. (Canceled)

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14. (Amended) A method of recording broadcasted bitstream information on a recordable information medium having a data area and a management area,

wherein said method uses a display device configured to display electronic program guide information received by a digital broadcast tuner and a recording unit configured to record one or more broadcast programs received by the digital broadcast tuner, and

wherein said bitstream information is formed into stream packets, each stream packet containing one or more application packets and partial application packets that are obtained by splitting said application packets across boundaries of said stream packets,

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said method comprising:

designating a specific broadcast program based on displayed contents of said electronic program guide information;

informing said digital broadcast tuner of the specific broadcast program;

receiving from said digital broadcast tuner the specific broadcast program so as to record a bitstream of the specific broadcast program in the data area of said recordable information medium; and

writing in the management area of said recordable information medium, prescribed management information relating to the bitstream recorded in the data area.

15. (Amended) An information medium comprising:

a) a data area configured to store a data object formed of one or more data object units,  
wherein:

1) each of the one or more data object units corresponds to one or more stream blocks that are filled with MPEG transport stream information;

2) said data object is recorded on said information medium in a series of packets that each include one or more sequential or continuous stream packets that include one or more application packets; and

3) at least one of said stream packets includes one or more partial application packets obtained by splitting one or more said application packets across boundaries of said stream packets; and

b) a management area configured to store management information relating to said data object.

16. (Amended) A method for recording bitstream data that corresponds to an MPEG transport stream, on an information medium having a data area and a management area, the method comprising:

a) recording the bitstream data in the data area of the information medium as a data object formed of one or more data object units that are filled with information of said MPEG transport stream, wherein:

1) each of the one or more data object units corresponds to one or more stream blocks;

2) said data object is recorded on said information medium in a series of packets that each include one or more sequential or continuous stream packets that include one or more application packets; and

3) at least one of said stream packets includes one or more partial application packets obtained by splitting one or more said application packets across boundaries of said stream packets; and

b) recording management information relating to the data object in the management area of the information medium.

17. (Amended) A method for playing back bitstream data that corresponds to an MPEG transport stream and that is recorded on an information medium having a data area and a management area, the method comprising:

a) playing back the bitstream data recorded in the data area of the information medium,

wherein:

1) the bitstream data is recorded as a data object formed of one or more data object units that are filled with information of said MPEG transport stream;

2) each of the one or more data object units corresponds to one or more stream blocks;

3) said data object is recorded on said information medium in a series of packets that each include one or more sequential or continuous stream packets that include one or more application packets; and

4) at least one of said stream packets includes one or more partial application packets obtained by splitting one or more said application packets across boundaries of said stream packets; and

b) managing the playing back step using management information relating to the data object recorded in the management area of the information medium.

18. A method of recording bitstream information that includes:

a data object formed of one or more data object units, each of which serves as a prescribed data unit;

control information of said data object, said control information including access unit data used for accessing an access unit which is a part of contents of said data object; and

a bitstream formed of a series of packets, said bitstream including contents of said data object and contents of said control information;

wherein:

contents of said bitstream are reproduced from said bitstream information, based on said access unit data;

said packets include one or more sequential or continuous stream packets containing one or more application packets;

at least one of said stream packets includes one or more partial application packets obtained by splitting one or more said application packets across boundaries of said sequential or continuous stream packets;

said bitstream corresponds to an MPEG transport stream; and

said one or more data object units are filled with information of said MPEG transport stream;

the method comprising:

a) obtaining the bitstream information;

b) preparing the packets that include the contents of the bitstream information's data object and the contents of the control information; and

c) recording the packets prepared in the preparing step onto an information recording medium

19. A structure of an MPEG transport stream, comprising:  
information of one or more transport packets that include information of a unit start indicator that specifies an address of an MPEG I-picture.

20. (Amended) An apparatus comprising:  
means for decoding the MPEG transport stream of Claim 19.

21. The apparatus of Claim 20, wherein said MPEG transport stream includes management information configured to store MPEG support information.

22. (Amended) An apparatus comprising:  
means for encoding the MPEG transport stream of Claim 19.

23. The apparatus of Claim 22, wherein said MPEG transport stream includes management information configured to store MPEG support information.

24. An information storage medium, comprising:  
a data area configured to store an MPEG transport stream; and  
a management area configured to store any support information that may be stored in the MPEG transport stream.

25. The method of Claim 11, wherein:  
partial application packets are included in any of the stream packets except for stream packets at a beginning of said data object.

26. The method of Claim 11, wherein:  
the bitstream information is an MPEG transport stream.

27. The method of Claim 26, wherein:  
at least one of the data object units is filled with information of said MPEG transport stream.



28. The method of Claim 11, wherein:

partial application packets are included in any of the stream packets except for stream packets at a beginning of said data object;

the bitstream information is an MPEG transport stream; and

at least one of the data object units is filled with information of said MPEG transport stream.

*Please add the following new Claims 29-32:*

29. (New) A reproducing apparatus configured to reproduce bitstream information that includes:

a) a data object formed of one or more data object units each of which serves as a prescribed data unit;

b) control information of said data object, said control information including access unit data used for accessing an access unit that is a part of contents of said data object; and

c) a bitstream formed of a series of packets, said bitstream including contents of said data object and contents of said control information, wherein contents of said bitstream are reproduced from said bitstream information, based on said access unit data;

wherein:

said packets include one or more sequential or continuous stream packets containing one or more application packets; and partial application packets obtained by splitting said application packets across boundaries of said sequential or continuous stream packets,

each of said application packets has an application timestamp at a leading portion thereof, and

when a first byte of said application timestamp of a first one of said application packets is aligned to a start of an application packet area in a first one of said stream packets located at beginning of said data object, the split one of said partial application packets is reproduced based on contents of access information provided in said stream packets.

30. (New) A reproducing apparatus configured to reproduce information from an information medium that includes:

a) a data area configured to store a data object formed of one or more data object units, wherein:

1) each of the one or more data object units corresponds to one or more stream blocks that are filled with MPEG transport stream information;

2) said data object is recorded on said information medium in a series of packets that each include one or more sequential or continuous stream packets that include one or more application packets; and

3) at least one of said stream packets includes one or more partial application packets obtained by splitting one or more said application packets across boundaries of said stream packets; and

b) a management area configured to store management information relating to said data object.

31. (New) A reproducing apparatus configured to reproduce information from an information storage medium that includes:

a data area configured to store an MPEG transport stream; and

a management area configured to store any support information that may be stored in the MPEG transport stream.